

## ABSTRACT

The present invention provides a word voter for redundant systems with  $n$  modules wherein each of these  $n$  modules generates a word output. The word voter receives word outputs from each of the  $n$  modules. A voter decision is generated by the word voter utilizing a word basis  
5 of the word output of each of the  $n$  modules. The voter is based on a majority voting principle. The advantage of the present invention is that the word voter can be used to design redundant systems, such as, but not limited to, TMR systems, that are protected against common mode and multiple output failures. In addition, another advantage of the present invention is that it provides for a technique to efficiently design a TMR simplex system. The  
10 present invention provides a word voter for hardware systems.

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